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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,105	07/02/2003	Luca Rastelli	21402-018DIV (Cura-318DIV)	4239
7590	08/28/2006		EXAMINER	
Jenell Lawson Intellectual Property CuraGen Corporation 555 Long Wharf Drive New Haven, CT 06511			WOLLENBERGER, LOUIS V	
			ART UNIT	PAPER NUMBER
			1635	

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/613,105	RASTELLI ET AL.	
	Examiner	Art Unit	
	Louis V. Wollenberger	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,9 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Exhibits A and B</u> . |

DETAILED ACTION

Location of the Application

The location of the application has changed. The application has been docketed to Examiner Louis V. Wollenberger in Art Unit 1635.

Status of Application/Amendment/Claims

Applicant's response filed 6/28/2006 has been considered. Rejections and/or objections not reiterated from the previous office action mailed 2/28/2006 are hereby withdrawn. The following rejections and/or objections are either newly applied or are reiterated and are the only rejections and/or objections presently applied to the instant application.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

With entry of the amendment filed on 6/28/2006, claims 1-6 and new claims 9 and 10 are pending and currently under examination.

Claim Rejections – 35 USC § 102

Claims 1-6, 9, and 10 remain rejected under 35 U.S.C. 102(e) as being anticipated by Au-Young et al. (US 6,500,938). The invention set forth in claims 1-6 is relied upon as above. The invention set forth in claims 7 and 8 is drawn to the method above wherein the nucleic acid comprises SEQ ID NO: 1 or wherein the nucleic acid encoding an antileukoprotease polypeptide comprises the amino acid sequence of SEQ ID NO: 2.

Applicants argue that Au-Young et al. do not specifically teach using instant SEQ ID NO:1 or sequences encoding SEQ ID NO:2 to identify colon, thyroid, or renal cancer.

However, it is the Examiner's position that the amendment to the preambles of claims 1 and 4 does not result in a manipulative difference between the claimed invention and the prior art (MPEP 2111.02). While applicants point to the amendments to the preamble to distinguish over the applied prior art, applicants are advised that the steps themselves do not reflect this limitation inasmuch as they continue to read on steps for measuring expression in a test sample and identifying the presence of a cancer cell. Therefore, the steps are not limited to a subset of cancer cell samples.

While Applicants have amended the preambles of independent claims 1 and 4 to recite methods for identifying colon, thyroid, and renal cancer cells, the preamble itself does not impose a material limitation on the steps themselves, which recite measuring the expression of a nucleic acid.....in a test sample"; comparing the expression of the nucleic acid...."; wherein...indicates the presence of a cancer cell."

Thus, the claims remain broad, encompassing methods for measuring the expression of SEQ ID NO:1 or any nucleic acid encoding SEQ ID NO:2 in any test sample from any species (step a) and, in the case of claim 1, identifying any cancer cell in any test sample from any species by the measurement of "a comparable level of expression of" a "reference nucleic acid." Claims 1 and 4 conclude with a "wherein" phrase for identifying the presence of any cancer cell."

While the preambles of claims 1 and 4 set forth an intended or suggested use, they do not specifically limit the claimed methods to the analysis of colon, thyroid, or renal tissue-derived

test samples. That is the preambles of claims 1 and 4 do not result in a manipulative difference between the claimed invention and the prior art. (MPEP 2111.02). The recited process steps are not limited to colon, thyroid, or renal cancer cell test samples and the “wherein” phrase that concludes each claim clearly recites “a cancer cell” not a colon, thyroid, or renal cancer cell.

If the prior art structure is capable of performing the intended use, then it meets the claim.

A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

In Table 1, columns 65-66, Au-Young et al. disclose SEQ ID NO: 1271, said to represent a human mRNA sequence from the cervix/uterus. SEQ ID NO:1271 is 594 nucleotides in length and is identical to instant SEQ ID NO:1 (see the alignment in Exhibit A: Result 1 of STIC-Biotech sequence search of SEQ ID NO:1, issued patents database). Similarly, SEQ ID NO:1271 encodes a polypeptide comprising instant SEQ ID NO:2 (see Exhibit B: Result 1 of STIC-Biotech sequence search of SEQ ID NO:2, issued patents database).

Au-Young et al. disclose that the sequences of their invention can be used on a microarray or as hybridization probes in methods of expression profiling, in order to catalogue differences in gene expression between healthy and diseased tissues or cells (col. 11). Au-Young et al. disclose the use of expression profiling to diagnose cancer, including ovarian cancer (cols. 11-12). The disclosures of Au-Young et al. are reasonably considered to anticipate the instantly

claimed invention because they disclose nucleic acid expression profiles that can be generated with the hybridization probe of their invention, including SEQ ID NO: 1271 would be compared, inherently, from healthy and diseased tissues or cells, in order to catalogue differences in gene expression and to diagnose cancer including ovarian cancer.

Therefore, Au-Young et al. anticipate the instant invention as set forth in claims 1-6, 9, and 10.

Claims 1-6, 9, and 10 remain rejected under 35 U.S.C. 102(e) as being anticipated by Morin et al. (US 2003/0211498) (which claims priority from US Provisional Application 60/194,336).

Applicants' argue that Morin et al. do not teach the use of instant SEQ ID NO:1 or sequences encoding SEQ ID NO:2 to identify colon, thyroid, or renal cancer. However, the steps recited in the instant claims are not limited to detection of colon, thyroid, or renal cancer for the reasons given above.

Morin et al. disclose methods of detecting ovarian cancer in a subject by comparison of the expression of tumor marker genes between samples taken from the subject and normal and cancer reference profiles (pg. 1, [0005-0013]). Morin et al. disclose SEQ ID NO: 53 that is an ovarian cancer tumor marker that is identical to instantly claimed SEQ ID NO: 1, that is the mRNA encoding secretory leukocyte protease inhibitor (which is also known as antileukoprotease) (pg. 2, [0023]; pg. 4, [0053]) (see also, attached sequence alignment, provided with previous Office Action).

Therefore, Morin et al. anticipate the instant invention as set forth in claims 1-6, 9, and 10.

New Ground of Rejection Necessitated by Applicants' Amendments

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1–6 are rejected under 35 U.S.C. 102(e) as being anticipated by Gould-Rothberg et al. (US Patent 6,436,642).

Gould-Rothberg et al. teach that human antileukoprotease, GenBank Accession No. X04470, is expressed in colorectal carcinomas and is up-regulated in metastatic vs. non-metastatic thyroid cancer (column 15, line 63, to column 16, line 10; see also column 2, lines 5-25). At column 26, under General Screening and Diagnostic Methods, Gould-Rothberg et al. teach the detection and analysis of human antileukoprotease for diagnosing the presence and stage of thyroid cancer, and, presumably, other cancers in which human antileukoprotease is expressed. Gould-Rothberg et al. teach that the expression level of one or more of the disclosed metastatic thyroid carcinoma nucleic acid sequences (MTCs) in a test cell population is

compared to expression levels of the sequences in one or more cells from a reference cell population. A reference cell population may comprise cancerous or non-cancerous cells, as required (column 26-27). Gould-Rothberg et al. teach that the test cell population may be known to contain or be suspected of containing a neoplasm. In some embodiments, the test cell will be included in a cell sample known to contain or suspected of containing a thyroid follicular adenoma (column 27, line 25-30).

Accordingly, Gould-Rothberg et al. teach the detection of human antileukoprotease, GenBank Accession No. X04470, for the detection and/or identification of thyroid cancer cells in a test sample. Gould-Rothberg et al. also appear to recognize and suggest the association of human antileukoprotease expression in colorectal cancers, and describe methods of detection that are generally applicable to the measurement of mRNA expression in any cancer cell population.

The instant application discloses that instantly recited SEQ ID NO:1 (claims 1 and 4) is identical to GenBank Accession No. X04470 (see page 2 of 60/207104 and page 18 of the instant application). Accordingly, Gould-Rothberg et al. teach a method for measuring and comparing the expression of instant SEQ ID NO:1 relative to a reference cell population, normal or cancerous, for the identification of thyroid and colorectal cancers, as now claimed.

Thus, the instant claims are anticipated by Gould-Rothberg et al.

Response to Applicants' Arguments

Applicants' arguments presented on 6/28/06 not specifically addressed above are considered to be moot in view of Applicants' amendments to the claims and in view of the new and/or reiterated rejections stated herein, above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

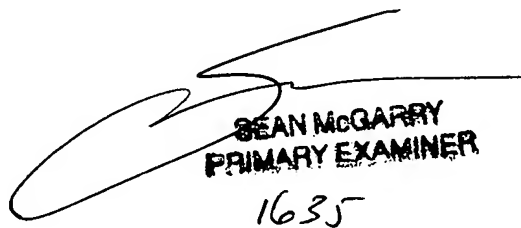
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Louis V. Wollenberger whose telephone number is 571-272-8144. The examiner can normally be reached on M-F, 8 am to 4:30 pm.

Art Unit: 1635

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Paras can be reached on (571)272-4517. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Louis Wollenberger
Examiner, Art Unit 1635
August 7, 2006


SEAN MCGARRY
PRIMARY EXAMINER
1635

STANDARD SEARCH of
SEQ ID. NO. 1

GenCore version 5.1.9

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OM nucleic - nucleic search, using sw model

Run on: July 15, 2006, 10:04:30 ; Search time 178 Seconds
(without alignments)
6244.037 Million cell updates/sec

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Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 1403666 seqs, 935554401 residues

Total number of hits satisfying chosen parameters: 2807332

Minimum DB seq length: 0
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Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Match	Query Length	ID	Description
1	594	100.0	594	3	US-09-016-434-1271 Sequence 1271, Ap
2	292	49.2	292	3	US-09-404-879A-377 Sequence 377, App
3	292	49.2	292	3	US-09-667-857-377 Sequence 377, App
4	292	49.2	292	3	US-10-198-053-377 Sequence 377, App
5	292	49.2	292	3	US-09-827-271-377 Sequence 377, App
6	249.4	42.0	325	3	US-09-016-434-1024 Sequence 1024, Ap
7	175.2	29.5	180	3	US-08-483-503A-2 Sequence 2, Appli
8	175.2	29.5	180	3	US-08-485-438-2 Sequence 2, Appli
9	113	19.0	194	2	US-07-963-538B-5 Sequence 5, Appli
10	77.2	13.0	93	2	US-08-304-051-15 Sequence 15, Appl
11	77.2	13.0	93	2	US-08-304-051-16 Sequence 16, Appl
12	77.2	13.0	93	7	PCT-US95-11445-15 Sequence 15, Appl
13	77.2	13.0	93	7	PCT-US95-11445-16 Sequence 16, Appl
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15	67.8	11.4	80	2	US-08-304-051-11	Sequence 11, Appl
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21	52.2	8.8	89	2	US-08-304-051-13	Sequence 13, Appl
22	52.2	8.8	89	7	PCT-US95-11445-13	Sequence 13, Appl
23	49	8.2	234	3	US-09-016-434-673	Sequence 673, App
24	49	8.2	762	3	US-09-991-181-344	Sequence 344, App
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38	35	5.9	59258	3	US-09-949-002-581	Sequence 581, App
39	34.8	5.9	63	2	US-07-963-538B-31	Sequence 31, Appl
c 40	34.6	5.8	66	2	US-07-963-538B-32	Sequence 32, Appl
41	34.2	5.8	113966	3	US-09-949-016-12277	Sequence 12277, A
42	34.2	5.8	113967	3	US-09-949-016-17051	Sequence 17051, A
43	34.2	5.8	128470	3	US-09-949-016-13765	Sequence 13765, A
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45	33.8	5.7	2309	3	US-09-016-434-1249	Sequence 1249, Ap

ALIGNMENTS

RESULT 1

US-09-016-434-1271

; Sequence 1271, Application US/09016434

; Patent No. 6500938

; GENERAL INFORMATION:

; APPLICANT: Janice Au-Young

; APPLICANT: Jeffrey J. Seilhamer

; TITLE OF INVENTION: COMPOSITION FOR THE DETECTION OF SIGNALING

; TITLE OF INVENTION: PATHWAY GENE EXPRESSION

; NUMBER OF SEQUENCES: 1490

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: INCYTE PHARMACEUTICALS, INC.

; STREET: 3174 PORTER DRIVE

; CITY: PALO ALTO

; STATE: CALIFORNIA

; COUNTRY: USA

; ZIP: 94304

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS 6.2

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/09/016,434

; FILING DATE: HEREWITH

; CLASSIFICATION:

; PRIOR APPLICATION DATA:

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; APPLICATION NUMBER:
; FILING DATE:
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: Zeller, Karen J.
; REGISTRATION NUMBER: 37,071
; REFERENCE/DOCKET NUMBER: PA-0002 US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (650) 855-0555
; TELEFAX: (650) 845-4166
; INFORMATION FOR SEQ ID NO: 1271:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 594 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; IMMEDIATE SOURCE:
; LIBRARY: GENBANK
; CLONE: g28638
US-09-016-434-1271

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Query Match 100.0%; Score 594; DB 3; Length 594;
Best Local Similarity 100.0%; Pred. No. 1.5e-183;
Matches 594; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db

541 CAAGAAGTGCCAGTTGATCAATGAATAAATAAACGAGCCTATTTCTCTTTGCAC 594

10/613105

Standard search of SEQ ID NO:2 against the nucleic acid databases

GenCore version 5.1.9

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OM protein - nucleic search, using frame_plus_p2n model

Run on: July 18, 2006, 08:43:56 ; Search time 161 Seconds
(without alignments)
2301.115 Million cell updates/sec

Title: US-10-613-105-2
Perfect score: 762
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Listing first 45 summaries

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-MODE=LOCAL -OUTFMT=pto -NORM=ext -HEAPSIZE=500 -MINLEN=0 -MAXLEN=2000000000
-HOST=abss05p -USER=US10613105_@CGN_1_1_307_@runat_18072006_084415_7245
-NCPU=6 -ICPU=3 -NO_MMAP -NEG_SCORES=0 -WAIT -DSPBLOCK=100 -LONGLOG
-DEV_TIMEOUT=120 -WARN_TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7

Database : Issued_Patents_NA:*
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10: /EMC_Celerra_SIDS3/ptodata/2/ina/backfiles1.seq:*

Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

RESULT 1

US-09-016-434-1271

; Sequence 1271, Application US/09016434

; Patent No. 6500938

; GENERAL INFORMATION:

; APPLICANT: Janice Au-Young

; APPLICANT: Jeffrey J. Seilhamer

; TITLE OF INVENTION: COMPOSITION FOR THE DETECTION OF SIGNALING

; TITLE OF INVENTION: PATHWAY GENE EXPRESSION

; NUMBER OF SEQUENCES: 1490

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: INCYTE PHARMACEUTICALS, INC.

; STREET: 3174 PORTER DRIVE

; CITY: PALO ALTO

; STATE: CALIFORNIA

; COUNTRY: USA

; ZIP: 94304

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS 6.2

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/09/016,434

; FILING DATE: HERewith

; CLASSIFICATION:

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER:

; FILING DATE:

; CLASSIFICATION:

; ATTORNEY/AGENT INFORMATION:

; NAME: Zeller, Karen J.

; REGISTRATION NUMBER: 37,071

; REFERENCE/DOCKET NUMBER: PA-0002 US

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: (650) 855-0555

; TELEFAX: (650) 845-4166

; INFORMATION FOR SEQ ID NO: 1271:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 594 base pairs

; TYPE: nucleic acid

; STRANDEDNESS: single

; TOPOLOGY: linear

; IMMEDIATE SOURCE:

; LIBRARY: GENBANK

; CLONE: g28638

US-09-016-434-1271

Alignment Scores:

Pred. No.:	2.9e-70	Length:	594
Score:	762.00	Matches:	132
Percent Similarity:	100.0%	Conservative:	0
Best Local Similarity:	100.0%	Mismatches:	0
Query Match:	100.0%	Indels:	0
DB:	3	Gaps:	0

US-10-613-105-2 (1-132) x US-09-016-434-1271 (1-594)

Qy	1	MetLysSerSerGlyLeuPheProPheLeuValLeuLeuAlaLeuGlyThrLeuAlaPro	20
Db	19	ATGAAGTCCAGCGGCCTCTTCCCCTTCCTGGTGCTGCTTGCCTGGGAACCTCTGGCACCT	78
Qy	21	TrpAlaValGluGlySerGlyLysSerPheLysAlaGlyValCysProProLysLysSer	40
Db	79	TGGGCTGTGGAAGGCTCTGGAAGTCCTTCAAAGCTGGAGTCTGTCCTCCTAAGAAATCT	138
Qy	41	AlaGlnCysLeuArgTyrLysLysProGluCysGlnSerAspTrpGlnCysProGlyLys	60
Db	139	GCCCAGTGCCTTAGATACAAGAAACCTGAGTGCCAGAGTGACTGGCAGTGTCCAGGGAAG	198
Qy	61	LysArgCysCysProAspThrCysGlyIleLysCysLeuAspProValAspThrProAsn	80
Db	199	AAGAGATGTTGTCTGACACTTGTGGCATCAAATGCCTGGATCCTGTTGACACCCCAAAC	258
Qy	81	ProThrArgArgLysProGlyLysCysProValThrTyrGlyGlnCysLeuMetLeuAsn	100
Db	259	CCAACAAGGAGGAAGCCTGGGAAGTGCCAGTGACTTATGGCCAATGTTTGTATGCTTAAC	318
Qy	101	ProProAsnPheCysGluMetAspGlyGlnCysLysArgAspLeuLysCysCysMetGly	120
Db	319	CCCCCAATTTCTGTGAGATGGATGGCCAGTGCAAGCGTGACTTGAAGTGTTGCATGGGC	378
Qy	121	MetCysGlyLysSerCysValSerProValLysAla	132
Db	379	ATGTGTGGGAAATCCTGCGTTTCCCCTGTGAAAGCT	414